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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,441

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William John Metherringham

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7590

10/14/2008

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EXAMINER

ENSEY, BRIAN

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

10/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,441	Applicant(s) METHERINGHAM ET AL.	
	Examiner Brian Ensey	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 11-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 4-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/21/05 & 12/5/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-10 in the reply filed on 9/22/08 is acknowledged.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: See item 16 on page 6, lines 4 and 6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

Claim Objections

Claims 1 and 2 are objected to because of the following informalities: The term “in use” does not clearly define a specific condition of the transducer. The examiner suggests using the term “in a static state or condition” or “in a dynamic state or condition” to identify the status of the transducer . Appropriate correction is required.

Claim Rejections - 35 USC § 103

Claims 1-3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flint et al. U.S. Patent No. 3,697,790.

Regarding claim 1, Flint discloses an a transducer (12) adapted to co-operate with a surface (16,18) to induce into the surface vibrations whereby the surface radiates sound therefrom, the transducer comprising an active element (24,26) which changes in length along a first axis (horizontal in Fig. 3) in response to an input signal, the element being mounted between an inertial mass (frame 14) and a foot (48) which engages a surface (16,18) whereby vibrations produced by the active element are acoustically coupled into the surface, wherein the foot is hingedly connected (elastic foot connected by epoxy fillets 44,46) to the inertial mass and the active element is located between the foot and the mass such that the angle between the first axis and the surface is less than 90.degrees Active elements 24, 26 are parallel to surfaces 16, 18) (See Figs 1-3 and col. 4, line 3 to col. 5, line 60). Flint does not expressly disclose the vibrations or input signal are in the audiofrequency range. However, Flint teaches an embodiment of the transducer used as a microphone for a hearing aid (See col. 7, lines 17 and 18 and col. 8, lines 5-12). Additionally, Flint does not limit the transducer to only a microphone and teaches the

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transducer may be electromechanical or electroacoustic (See abstract). A transducer of such construction may be used as a microphone or speaker depending on whether an electrical input is supplied to drive the diaphragm or the diaphragm detects mechanical vibration to produce an electrical signal. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an electrical signal to the transducer of Flint to produce an audiofrequency output.

Regarding claim 2, Flint further discloses the said angle is 45.degrees or less (See Fig. 3).

Regarding claim 3, Flint further discloses the first axis extends substantially parallel to the surface in use (See Fig. 3).

Regarding claim 10, Flint further discloses the active element comprises a piezoelectric material (See col. 4, lines 57 and 58).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flint et al. as applied to claim 1 above, and further in view of Djahansouzi U.S. Patent Application Publication 2001/0005417 A1.

Regarding claim 9, Flint does not expressly disclose the active element comprises a magnetostrictive material. However, the use of magnetostrictive materials interchangeably with piezoelectric materials in transducers is well known in the art and Djahansouzi teaches a transducer utilizing either of a piezoelectric or magnetostrictive driver (See paragraph 0040). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the piezoelectric driver of Flint with the magnetostrictive driver of Djahansouzi since they provide equivalent functions.

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Allowable Subject Matter

Claims 4-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:00 AM - 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, Va. 22313-1450

Or faxed to:

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to:

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian Ensey/
Primary Examiner, Art Unit 2614
October 9, 2008

7. An acoustic transducer according to claim 1, wherein the centre of the foot is directly below the centre of gravity of the transducer.

8. An acoustic transducer according to claim 1, wherein the inertial mass includes one or more of batteries, electrical circuitry, and a housing for the transducer.

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